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AN EVALUATION OF FACTORS THAT INFLUENCE
SERVICE CONTRACT QUALITY

by

Daniel J. Barnd

December 1989

Thesis Advisor:

Raymond W. Smith

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An Evaluation of Factors that Influence
Service Contract Quality

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Captain, United States Marine Corps
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Submitted in partial fulfillment of the
requirements for the degree of

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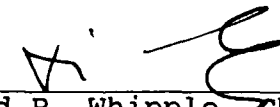
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ABSTRACT

Until recently quality improvement has been mainly applied to manufacturing. However, experience and the explosive growth of the services industry has shown that opportunities for simultaneous quality improvement must be undertaken. Today, both the Government and contractors are facing growing competitive and regulatory pressures to deliver higher quality services. In an attempt to comply with these pressures more emphasis has been placed on the inspection process and subsequently on the contract administration sections as they are tasked to develop and apply efficient procedures for quality assurance. The research indicated that there are four factors that influence service quality. These factors are: the Quality of Assurance, the Contractor, the Statement of Work and the Performance Requirements Summary. The research concluded that the Government and contractors face the same challenges and must work together to develop a coherent policy on quality, grounded in a common language, common management principles, common standards and common goals.

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I. INTRODUCTION

A. OBJECTIVE OF THE RESEARCH

The principal objective of this thesis is to evaluate and identify potential and existing problems with non-technical services contracts. The evaluation will be based on an analysis of trends within the past ten years. The focus of the thesis will be on the factors that influence service quality, their measurement and controllability.

B. RESEARCH QUESTIONS

1. Primary Research Question

In what ways could the drafting and administration of services contracts be changed to improve the contractors performance?

2. Subsidiary Questions

1. What are non-technical service type contracts?
2. Is there a way to write specifications that would enhance contract performance?
3. Is the use of the current quality assurance plan a method for improving contractor performance?
4. Are there ways to incentivize the contractor to provide better performance?

C. SCOPE

The scope of this thesis will be limited by the definition of non-technical service contracts. Because a non-technical services contract is a contract that directly

engages the time and effort of a contractor whose primary purpose is to perform an identifiable task--a narrowing of the definition was needed for the study. This researcher chose to define a non-technical service contract as food service and custodial contracts because there is a significant amount of literature available and they have been in use longer than other types of services contracts. The search for information in the literature was limited to the past ten years with an emphasis on the more recent past where data were available. To obtain the perspective of significant problems, a review of all the Services' Inspector General and Audit Reports was undertaken. Additionally, to enhance the understanding of the problems experienced by personnel dealing with services contracts, personnel from both the Government and service industry were interviewed. The personnel selected were from the local area.

D. METHODOLOGY

The research was composed of three research methods. Federal Legal Information Through Electronics (FLITE), a computer data base located in Denver, Colorado was utilized to extract the data contained in Chapter III. FLITE was searched for litigations involving the Commercial Activities program to obtain abstracts of decisions rendered by the Armed Services Board of Contract Appeals (ASBCA). The search strategy consisted of:

1. Restricting the search to decisions rendered by the ASBCA.
2. Utilizing keywords index of "contracting out," "food service," "custodial," and "A-76."
3. Restricting the search to the past ten years.

This strategy reflected a general search pattern that was designed to capture the maximum number of decisions involving services contracts as confined by the stated restrictions.

The second research method utilized was to review DOD Inspector General Reports, Service Audit Reports and General Audits aimed at measuring effectiveness. The amount of data available from DLSIE allowed a more detailed look at the problems encountered in services contracting.

The third research method was personal interviews. These interviews provided an up-to-date method for assessing the problems encountered by industry and the problems encountered by the Government when writing and administering services contracts.

E. PROBLEMS ENCOUNTERED

The largest problem encountered by this researcher was the accumulation and review of literature. The school library does not maintain periodicals of the service industry; however, these can be obtained from local libraries. The problem becomes a matter of time and planning. The use of outside services such as the Building Service Contractors Association provided viable information

in a timely manner. Other large service industry groups such as the Coalition of Service Industries did not respond to written correspondence and were deleted from the research effort. DLSIE has pertinent information; however, the researcher must be specific and start early to gain full benefit from the searches. This researcher utilized nine custom bibliographies of which the individual report bibliographies, when provided, were found to be the most useful. A source neglected by this researcher was the Naval Facilities Command, specifically the Naval Facilities Contracts Training Center at Port Hueneme which this researcher found only after the background search had been completed.

F. THESIS ORGANIZATION

The organization of this thesis is structured such that the reader can gain an understanding of the requirement to contract for services as well as obtaining a flavor for the explosive growth in the use of services contracts and the associated problems with drafting and administering them.

Chapter II presents the background of the A-76 program and the current methods used to measure effectiveness and quality. The mechanics of contract quality assurance are thoroughly detailed.

Chapter III presents the data from FLITE, Audit Reports and personal interviews. Specific factors that influence service quality are assessed and summarized.

Chapter IV provides an analysis of the results from Chapter III and the causative factors that lead to the rate of occurrence for each factor influencing service quality.

Chapter V contains the researchers conclusions and recommendations to improve the drafting and administering of service contracts.

II. BACKGROUND

A. GENERAL

The Office of Management and Budget Circular A-76 was promulgated in 1955, and has received bi-partisan support for almost three decades. The activities subject to the Circular range from furnishing base maintenance services at military installations to operating federal automated data processing centers. Essentially all Government operations are subject to the stricture of OMB A-76 unless the activity itself is inherently Governmental in nature. It rests on three precepts.

1. Retain Governmental Functions In-House

Certain functions, such as criminal investigations and military operations are inherently Governmental functions. These functions require either the exercise of discretion in applying Government authority or the use of value judgment in making a decision. The Secretary of Defense has the authority to establish criteria for the exemption of activities from A-76 for national defense reasons. The authority, established in the Commercial Activities Program, allows the continuing use of in-house Department of Defense personnel when:

- a. The Secretary of a Military Department or the Director of a Defense Agency determines that the activity is essential for training or experience in required military skills, the activity is needed to provide

appropriate work assignments for a rotation base overseas or sea-to-shore assignments, or the activity is needed to provide career progression to needed military skill levels.

- b. The activity, though not a national defense activity, is not separable from those activities that must remain in-house for national defense or other reasons.
- c. The activity is a core logistics activity defined by Public Law 98-525 as amended by Public Law 99-145.

2. Achievement of Economy and Productivity Through Competition

Whenever commercial sector performance of a Government operated service is feasible, there shall be a comparison of the cost of contracting in a competitive environment against in-house performance to determine who shall do the work.

3. Rely on the Commercial Sector

The Federal Government shall rely on commercially available sources to provide commercial products and services. The Government shall not start or carry on any activity if the product or service can be procured more economically from a commercial source. This will allow the private sector to provide services and avoid increasing the size of the Federal Government. [Ref. 1:p. 5]

In its simplest form, the program calls upon Federal agencies to procure new commercial goods and services from the private sector, to identify all their commercial activities, to conduct cost comparisons between existing governmentally operated commercial activities and bidders, and to select the most economical means for obtaining

commercial products and services. The revision in August of 1983 improved and simplified the cost comparison process.

B. OVERALL IMPACT OF OMB CIRCULAR A-76

This policy promotes efficient and cost effective operations that benefit Federal managers, private businessmen, and taxpayers. The policy interjects the competitive market system into Government management and thus provides an incentive for effective operations at the most economical price. Realization of the program's objective is based on three requirements:

1. Develop performance work statements that describe the output and quality level required by the Government. It provides a common baseline for the Government and the private sector to organize and manage the commercial activity being competed.
2. Determine the most effective and efficient operation to form the basis for the cost comparison with commercial firms. This is also called most efficient organization (MEO) and is often used by the Government to develop innovative and less costly ways of meeting performance standards.
3. Commercial firms and Government agencies compete in a simulated free and open marketplace to perform the activity. [Ref. 1:p. 7]

Over 1700 cost studies have been conducted since 1979, resulting in average savings of 28% over the previous cost of the commercial activity to the Government--regardless of whether Federal employees or contractors won the competition. [Ref. 1:p. 5]

C. IMPACT OF A-76 ON THE DEPARTMENT OF DEFENSE

Table 2.1 depicts the value (in \$ billion) of Department of Defense (DOD) contracting actions for 18 types of services reported individually on Standard Form 279 (SF279) to the General Services Administration Federal Procurement Data Center during the past ten years. [Refs. 2,3] It should be noted that only contract actions with a value of more than \$25,000 must be reported on SF279; however, one percent of the total can be attributed to actions under \$25,000, optionally reported.

TABLE 2.1

FY 1978, 1983, 1988 SERVICE CONTRACT
ACTIONS REPORTED ON SF 279

Fiscal Year	\$ Value (Billions)
1978	4.89
1983	7.61
1988	8.51

Source: U.S. General Service Administration Federal
Procurement Data Center Standard Report

As a result of this continuing trend toward contracting out, service contractors have assumed a major role in day-to-day operations of military installations. It is believed that this trend will continue due to overall manpower constraints and the need to reduce base-level support costs in the new austere budget era. The explosive growth in

contract services has precipitated numerous management problems. Previous studies of service contracting have identified numerous factors which influence service quality. A list of major factors always includes the contractor, the statement of work, the Government quality inspector and the quality inspection method. The performance of the contractor and the Government quality inspector are direct functions of the statement of work and the quality inspection method. This is due to the rationale that contractor performance can only be measured through specific requirements. Additionally, the ability of an inspector to determine whether a requirement has been met is a function of the quality assurance method as well as the measurability implicit in the requirements statement.

D. SERVICE CONTRACTS DEFINED

Until recently quality improvement has been mainly applied to manufacturing. However, experience has shown that opportunities for simultaneous quality improvement also exist in service industries. The growing importance of the service sector to our national (and world) economy is evident. The June 1985 issue of Fortune magazine contained the following data from the Coalition of Service Industries, Incorporated (CSI):

1. Service industries generate (conservatively) two-thirds of the United States Gross National Product.
2. Service industries employ three out of four working Americans.

3. Since World War II, the service sector has created, on the average, 15 new jobs for each new manufacturing job.
4. Over 95 percent of 25 million new jobs created since 1970 have been in the service industry.

The Federal Acquisition Regulation defines a service contract as "A contract that directly engages the time and effort of a contractor whose primary purpose is to perform an identifiable task rather than provide an end item of supply." Some of the areas in which service contracts are found within DOD include the following:

1. Maintenance, overhaul, repair, servicing, rehabilitation, salvage, modernization or modification of supplies, systems, or equipment.
2. Routine recurring maintenance of real property.
3. Housekeeping and base services.

In supplying services a company sells directly to the customer. Direct sales affords the company multiple contacts with a large number of customers which offers a greater opportunity to encounter both acceptable and unacceptable types of service. Therefore, the communication exchange experienced through these direct contacts provides valuable feedback that can be used as a measure of control.

[Ref. 4:p. 13]

E. SERVICE VERSUS MANUFACTURING

Several important differences exist between service industries and manufacturing industries. The major differences are that service industries feature:

1. Large volume of transactions.
2. Large amount of paperwork movement.
3. Relatively small amounts of money per transaction.
4. An extremely large number of ways of making errors.

These characteristics highlight the fact that the quality performance faced by a service industry is different from that faced by manufacturing. This difference has several implications:

1. Immediate human needs, human performance and large masses of paperwork predominate. Customers, employees and managers are involved. Therefore quality control must concentrate on the quality of large masses of data involved; on the quality of decisions made by employees at all levels; and on the quality of the responses made by the customers.
2. The major quality characteristics are error rates, time, cost and buyer satisfaction.
3. The exposure to human error is tremendous. Errors can be made by employees, managers and customers.
4. Quality of service is related to various time components required to perform the service. For the customer, these include arrangement time, immediate waiting time and service time.
5. Quality of service is related to cost. The customer wants acceptable quality service at an affordable expenditure. The company wants to operate so as to make a profit on its investment.
6. Customer complaints must be handled in an understanding, expeditious and polite manner. [Ref. 4:p. 13]

Savings by a Government quality program can be just as large as savings obtained in private industry as one out of four service employees work for the Government. [Ref. 4:p. 14]

F. APPROACH TO QUALITY CONTROL

A more comprehensive approach to quality control is needed in service operations than in manufacturing. Quality control is applied to physical products, data, human performance, management decisions and the environment. As needs increase, greater complexities evolve. New techniques have emerged as follows:

1. Sampling for discovery.
2. Estimations.
3. Comparisons.
4. Testing effectiveness.
5. Random time sampling for work.
6. Input/output analysis.
7. Learning curve analysis.
8. Written procedures and specifications.
9. Waiting or delay time analysis.
10. Field Testing and experimental design.

These methods provide an effective way of finding trouble and instituting corrective action; however, there are other objective indicators of trouble, such as:

1. Error rate is too high.
2. Idle time is excessive.
3. Delay is too long.
4. One massive error is found.
5. A violation of basic procedure is discovered.
6. Failure rate is too high.

7. Cost is too high.
8. Too many complaints.
9. Critical or control level is exceeded.
10. Illegal action is discovered. [Ref. 4:p. 14]

G. STEPS TO QUALITY CONTROL

Quality control is a management tool which allows for the management of important functions without being involved in the detailed day-to-day operations. This can be achieved through a series of steps:

1. Establish standards--Quality requirements are spelled out in a contract by the use of specifications, standards, drawings, and service description.
2. Measure performance--Compare service with standards, accept or reject within established guidelines.
3. Take corrective action--Determine cause of failure and start action to prevent a recurrence.
4. Improve the system--Continue to evaluate standards for improvements and in methods of measuring conformance. Develop more effective corrective action. [Ref. 5:p. 12]

Most companies employ a method of "management by control" where the emphasis is placed on key control points within the organizational structure. [Ref. 6:p. 53] It provides for a system that addresses control and short term gains. A simple, yet logical and consistent method, it attempts to both measure and reward accomplishments. However, since the established short term goals at the different organizational levels are often independent of each other management can find themselves in a position that

is diametrically opposed to the control system. [Ref. 6:p. 53] When measurable controls are unattainable or impractical, individuals and groups tend to fabricate conformance. The charade of conformance fosters guarded communications and dishonesty. This creates a "blame it on them" mentality and causes many to play it safe. [Ref. 6:p. 53] Fear is the prime motivator in management by control. It encourages an organization to look inward at its own structure rather than outward at the world in which the customer operates.

H. SERVICE CONTRACT QUALITY ASSURANCE

One of the most difficult aspects of Government service, contract administration is determining whether the services called for were performed and if they were, whether they were performed adequately. Inspection is the Government's primary means of ensuring that it receives what it bargained for. [Ref. 7:p. 2] The inspection process is carried out either by inspecting the work or by conducting surveillance of the contractor's inspection system. The Navy's traditional approach for service contracts has been either 100% inspection or something less and often much less than 100%. [Ref. 8:p. 4] One hundred percent inspection is very costly and often times infeasible due to personnel demands. Less than 100% inspection, performed on a hit or miss basis, appears to be the typical case. Government studies have found that less than 100% inspection techniques focus on the

work process (adherence to specified steps and frequencies) rather than on the quality of contract service performed. A viable quality assurance evaluation approach is based on the written plan tied to performance oriented specifications. It will focus on the quality of the service delivered by the contractor and not on the steps taken or procedures used to provide the service. [Ref. 9:p. 2] It includes the use of a discrete pre-planned evaluation technique, unscheduled evaluations and validation of complaints. There are several criteria for good quality assurance, some of the more important being:

1. The statement of work (SOW) must be written so that the quantity and quality of required outputs are measurable. The rationale being that contractor performance can only be measured through specific requirements. Further, the ability of an inspector to determine whether a requirement has been met is a function of the measurability implicit in the requirement statement, i.e., a requirement to keep a room cool is subject to measurement error since cool is a very subjective word; however, a requirement to keep a room between 68 and 72 degrees can be precisely measured.
2. The development of the SOW and Quality Assurance (QA) Guide should be viewed as a single process.
3. The depth and detail of observations of work quality should be geared to the importance of the services provided.
4. QA plans must have the potential to support corrective action when unsatisfactory performance occurs.

The process of assuring quality begins with a job analysis performed by the utilization of a seven step process. [Ref. 10:p. 2] The process is as follows:

1. Review and clarify the definition of the functional area to identify all organizational elements and services to be performed.
2. Prepare a work breakdown structure. This step takes the defined service and reduces it to smaller parts.
3. Analyze the structure to facilitate an understanding of what is needed to do the task, what comprises the task, and what the task produces to develop an effective work statement.
4. Collection of workload data and resource data. This step encompasses a review of historical data and the extrapolation of data in predicting future workload. Resource evaluation is the determination of how many personnel, what type of facilities, equipment or material are required to perform the service.
5. Assign performance values for each service. These values have components which are:
 - a. Realistic Performance Indicators--a measurable characteristic of the service.
 - b. Measurable Standards--A statement of acceptable performance.
 - c. Establish an Acceptable Quality Level (AQL) for each performance indicator. An AQL is an in-house tool used to identify the point where work performance would become unsatisfactory. The AQL is stated as either a percentage of work that is found to be in compliance or as a number of occurrences of non-compliance.
6. Determine if there are any directives or instructions that apply to the service to be provided.
7. Deduction Analysis--Standard clauses in service contracts allow the Government to deduct payment in the case of non-performance. The amount must represent as closely as possible the cost of the service foregone. [Ref. 11:p. 16] The information is used to arrive at a figure for each service which tells what percentage it is of the whole service. The source of information is the personnel data and the specific service outputs derived during job analysis.

The performance of detailed job analysis should result in an outline that will ensure a smooth writing process for

the SOW. The importance of performing a detailed job analysis can not be overemphasized as the SOW becomes part of the contract and is a contractually binding document on both the contractor and the Government. Since the written words translate into cost and profit, every word will be scrutinized, and if possible interpreted by contractors to their advantage. Every word, phrase and sentence must be carefully thought out. The use of ambiguous terms is one of the largest causes of interpretation and agreement problems. [Ref. 12: p. 64] A well-written SOW is paramount to successful contract completion.

Contractual requirements, regardless of how well written are not self-enforcing. If the Government does not adequately enforce its original requirements, there is a high tendency toward not meeting these requirements. [Ref. 9:p. 9] Section 46.104(b) of the FAR states that the contract administration office is to develop and apply efficient procedures for performing Government contract quality assurance actions. The surveillance plan is a method of compliance with this policy.

The surveillance plan assures that the Government maintains an active role in service contract management through a systematic contract administration procedure. The plan's goal is to determine if the contractor meets the requirements of the contract, in terms of quantity and

quality. There are three key ideas that are the basis for contract surveillance.

1. Quality Assurance relates to the output service provided by the contractor when the output is based on a contractor developed procedure, the procedures are only looked at on a by exception basis (satisfactory service output equals satisfactory procedures). When the procedure is specified by the Government, compliance with the procedure is the desired output service. [Ref. 13]
2. Contractor compliance is monitored through performance indicators which are specified in the SOW. A standard of performance is the desired value for a performance indicator and is the measuring stick that contractor performance is compared against. [Ref. 13]
3. When observed performance indicators show output not in compliance with contract requirements, the cause of the problem must be identified. An evaluation must be made to determine if the problem is caused by the Government or the contractor. If the cause of the problem is the Government, corrective action must be taken through Government channels. No action is required of the contractor. If the contractor is at fault, the contractor is notified to take corrective action and may be issued a Contractor's Discrepancy Report (CDR). [Ref. 13]

The difficulty of the surveillance process is to distinguish which performance indicators are critical to evaluate the service. Manpower constraints will usually preclude the monitoring of all performance indicators and even all values they may assume over the contractual period. Therefore, only the key indicators are included in the surveillance plan. Each contract requirement that is to be monitored must have a Quality Assurance Plan. The plan documents what and how the evaluator is to evaluate a contract requirement. The five most common methods used to evaluate the contractors performance are: random sampling,

planned sampling, 100% inspection, validated complaints, and unscheduled inspections.

1. Random Sampling

Surveillance based on random sampling is designed to evaluate some part, but not all, of the contract requirement being monitored. This method is based on statistical theory and estimates the contractor's overall level of performance for a given contract requirement. This method provides the following advantages:

- a. The contractor is unable to guess which occurrences of work are most likely to be evaluated.
- b. The evaluator's bias does not affect the specific occurrences of work selected to be monitored.
- c. All occurrences of an item of work are assumed to have the same level of performance.

Evaluations are conducted by the Quality Assurance Evaluator (QAE) and consist of measuring performance indicators for selected items of work. Results are compared to performance standards to check conformance. In order to implement a random sampling evaluation, certain parameters have to be set. These are level of surveillance, Acceptable Quality Level (AQL), and size of population. [Ref. 13]

The Level of Surveillance is based on statistical confidence levels. The following table represents current surveillance levels.

Initial evaluation would use a level IIA or IIB depending on the importance of the item evaluated.

TABLE 2.2
LEVELS OF SURVEILLANCE

<u>Level of Surveillance</u>	<u>Confidence Level</u>
I	80%
IIB	90%
IIA	95%
III	99%

Source: NAVFAC SOP for Performance Evaluation

The acceptable quality level (AQL) is an arbitrarily selected value used to distinguish between satisfactory and unsatisfactory performance. It is generally stated as a proportion. Since random sampling only provides an estimate of the true defect rate, a margin for error must be used. This is done by specifying accuracy requirements. The accuracy required will be set at one half the AQL ($AQL/2$). If the contractor's defect rate exceeds the $AQL + AQL/2$, his overall performance is unsatisfactory.

The size of the population is the number of times a service is performed over a given time period. The way in which a service is defined allows some limited control over population size. [Ref. 13]

2. Planned Sampling

Surveillance based on planned sampling is designed to inspect some part but not all of the contractor

requirements being monitored. Planned sampling differs from random sampling by the way in which samples are selected. The selection is based on some subjective rationale and sample size is usually arbitrarily determined. This type of surveillance is useful when a contractor's performance at a selected location is poor or when importance of a contract requirement depends on location of occurrence. With this type of surveillance a systematic way of taking a subjective (biased) look at service outputs is provided as well as a way to form conclusions about a contractor's level of performance.

3. One Hundred Percent Inspection

This is a method that requires 100% inspection of a contract requirement. This approach is best suited for monitoring contract requirements that occur infrequently, have a low number of occurrences, or are of great importance. This method measures the contractors true level of performance but is an expensive and time-consuming method which should be used sparingly.

4. Validated Complaints

This is a method based on customer awareness. Customers familiar with contract requirements, monitor the services provided by the contractor. When there is a case of poor service or non-performance, the Quality Assurance Evaluator (QAE) is notified. Upon notification, the QAE investigates the report and documents it if it is valid.

The number of complaints is dependent upon the customers and the relation between the QAE and the customers.

5. Unscheduled Inspection

This is what the name implies. Impromptu evaluations of contract requirements are conducted by the QAE whenever he feels there is a need. This type of surveillance should only be used to support other surveillance methods.

III. DATA PRESENTATION

A. GENERAL

Data used in this study were obtained from the Federal Legal Information Through Electronics (FLITE) data base, interviews with service contracting personnel from Fort Ord, an interview with a services contractor lawyer, Service Audit Reports and local services contractors.

B. DATA

The voluminous nature of the data obtained precludes displaying it in its entirety in the text of this study. Instead, the following summaries will provide the reasons each factor influencing service quality was decided upon. Table 3.1 is provided to display the data obtained. The factors influencing service quality were drawn from the literature review and are defined below:

1. SOW--Statement of Work.
2. PRS--Performance Requirements Summary.
3. QAE Problems--either with the inspector or the inspection process.
4. Contractor--Actions usually taken to the detriment of quality by the contractor under the auspice of cutting costs.

1. ASBCA No. 35304

This case involved Silangan Manpower Services appealing a contracting officer's final decision that

TABLE 3.1

FACTORS THAT INFLUENCE SERVICE QUALITY

<u>SOURCE</u>	<u>TYPE CONTRACT</u>	<u>SOW</u>	<u>PRS</u>	<u>FACTORS</u>	
				<u>QAE/INSPECTION PROCESS</u>	<u>CONTRACTOR</u>
ASBCA 35304	Custodial				X
ASBCA 33280	Custodial	X	X	X	
ASBCA 28966	Mess Attendant		X	X	
ASBCA 24802	Custodial				X
ASBCA 22816	Food Service				X
ASBCA 28829	Food Service			X	
ASBCA 24398	Food Service			X	
Audit 5076510	All			X	
Audit S078-450	All	X		X	
Audit HQ87-804	Food Service	X			
Service Contractor				X	
Contract Admin Personnel				X	X
Service Contractor Lawyer				X	X

Source: Author's Research

terminated custodial services for failure to perform the work as required by the contract. Silangan was required to provide an adequate and effective inspection and contractor quality assurance and control program pursuant to the Inspection of Services clause. The overall performance was deemed unsatisfactory and resulted in a discrepancy report emphasizing the fact that the Government's quality assurance surveillance was not a substitute for the contractor's quality control efforts. After being advised of deficiencies at successive weekly performance meetings over two months a show cause notice was issued. The overall findings of the board that the instances of non-performance and unsatisfactory performance noted are attributable to a lack of supervision, ineffective quality control measures, no shows, lack of ownership of equipment necessary for successful performance under the contract and failure to meet its payroll obligations substantiate the placement of this case under the contractor factor. [Ref. 14]

2. ASBCA 33280

This case involved Harris System International appealing a contracting officer's decision denying a claim for an equitable adjustment in the price of its services contract. There were three claims in this appeal, spot mopping in office areas, trash removal in office areas and spot cleaning in office areas. All three claims were affected by the finding that the cleaning ordered by the

Government on the contract was relatively poor. For example, the classroom and office building represented in the contract did not receive any dusting at all. This low level of service caused many of the tenants to complain about the janitorial services. The level of cleaning was not generally sufficient to give the buildings an overall clean appearance (SOW). It was determined that the QAEs and the contracting officer were expecting the entire floor to appear clean when only a portion of the floor was contractually required to be mopped (QAE Process). The trash removal and spot cleaning were not adequately defined within the task and frequency charts (PRS). [Ref. 15]

3. ASBCA No. 28966

This dispute with Kee Service Company arises under a fixed-price requirements contract to provide mess attendant services. The Government made deductions because of allegedly unsatisfactory services, all of which had been evaluated by sampling methods. The official who prepared the Performance Requirements Summary (PRS) had no time to make an analytical judgement concerning the contract values percentages assigned to particular required services in the performance requirements summary chart. The values were based on a "prototype" used by the Air Force and had no correlation to the present contract. It was also found that the QAEs had been enforcing and deducting for entire major

tasks when only a sub task or portion of the total task failed to meet the standards (QAE Process). [Ref. 16]

4. ASBCA No. 24802

This case involved Lewis Management and Service Company appealing the contracting officer's final decision terminating the contract for default. The evidence in the record suggests that the appellant had bid its contract on the basis that it would be able to hire experienced or seasoned janitorial personnel at minimum wage. Because the appellant figured its bid on the basis of paying too low a wage rate it was obvious that they wanted to be awarded the contract, even at a loss. The company deliberately bid using the minimum wage as specified for personnel to meet competition (Contractor). [Ref. 17]

5. ASBCA No. 22816

The case involves an appeal from Southeastern Services, Incorporated of a contracting officer's final decision which denied, in part, both appellant's settlement claim for associated costs with the termination for convenience and an equitable adjustment for additional costs attributed to Government directed changes in the performance required under the contract. The performance of the contract was unsatisfactory for the following reasons: feeding times were not being met, food preparation was so poor as to be unpalatable and sanitary requirements were completely unsatisfactory. All three reasons were

attributed to the appellant's failure to have a sufficient work force (Contractor). [Ref. 18]

6. ASBCA No. 28829

This case involves a food service contract where Leals Food Service, Inc., alleged that the Government wrongfully deducted funds from the contract. This contract was a Small Business Administration (SBA) section 8(a) set aside. The contracting officer initially discovered that the inspection and deduction system was not instituted as planned after the one month phase-in period. It appears that as a result of the mistake the QAES instituted inspection procedures that did not conform to the contract specifications. As a result deductions were improper (QAE Process). [Ref. 19]

7. ASBCA No. 24398

This case involves Lewis Management and Service Company with an appeal for an equitable adjustment as a result of the Government's imposition of alleged extra food preparation requirements and excessive Government inspections. This contract was a Small Business Administration (SBA) section 8(a) set aside. It was determined that the QAES had been helping instruct contractor personnel when asked although realizing that this task should be left to contractor's supervisors. The board also determined that the frequency of disputed preparation activities was indeterminate. There was no evidence as to

the general time frame when additional personnel were hired or extra hours were worked. Additionally, no attempt was made to link extra staffing or additional hours worked with food preparation. The case is particularly interesting in that the contractor was successful with an identical contract for the same branch of Armed Service in a different part of the state. Throughout the case, numerous references to poor contractor supervision/leadership appear. It is this researcher's opinion that the QAEs realized this and were trying to assist in delivering quality service to the supported personnel vice performing inspection tasks incorrectly (QAE Process). [Ref. 20]

8. Audit 5076510

The objective of this audit was to evaluate the effectiveness of the quality assurance evaluation program for base-level service contracts. Specifically, the Air Force evaluated the adequacy of the quality assurance inspection coverage, quality assurance program reviews made by functional area chiefs and contract administrators, and quality assurance measurement techniques. The audit was performed at 14 locations where 24 typical service contracts were being utilized. This judgmental sample was drawn from approximately 380 base-level service contracts and represents a cross section of base-level services procured and administered under current Air Force Regulations. For 20 of the 24 service contracts reviewed, required QAE

surveillance inspections were not performed satisfactorily or not performed at all. The Air Force also found that: (1) QAE inspection results were not always documented or properly reported, and (2) QAE performance was not being sufficiently monitored by the functional area chiefs or base contracting offices. Further, QAEs were not using random sampling techniques properly, and sampling plans were not an effective means for determining the acceptability of service contractor performance (QAE Process). [Ref. 21]

9. SO 78-450

The purpose of this audit was to determine whether the Commercial and Industrial-Type Function (CITF) Program was effectively implemented. The most common CITF at Army installations, and the one most frequently performed by contractors, was custodial services. Due to the extensive experience of the Army installations in contracting this service, the custodial contracts were reviewed to evaluate the adequacy of the specifications. The evaluation stated that the specifications were vague and did not adequately describe the service to be provided. As a result, price schedules, which show the amount the contractor will be paid for the services, were not adequately structured. The vague specifications precluded effective administration of contracts. A monitor was appointed for each building serviced by a contractor at eight of the ten installations. The monitors were responsible for inspecting the work

performed by the contractors and determining whether the work conformed to contract specifications. These monitors received no training in contract administration. Since the contract specifications were vague, unsatisfactory work could not be objectively classified. This resulted in each building monitor applying his own subjective standards to the inspection process (SOW and QAE Process). [Ref. 22]

10. HQ 87-804

The purpose of this audit was to examine food service contracting issues relating to the bid process. It was determined that the work specifications were not clear and the solicitation had to be amended significantly, which created a confusing solicitation package and delayed the bid opening for nine months (SOW). Vague work specifications give bidders an opportunity to increase their chances of being low bidder by under-bidding. Bidders anticipate that contract costs will increase after award when vague specifications are classified and contract modifications are negotiated. (This is known as buying in.) [Ref. 23]

11. Local Government Service Contractor

The purpose of this interview was to obtain information from a local services contractor in regard to which factor he felt most influenced service quality. The largest contributing factor was the QAE/Inspection Process. Specifically, the problems expressed were:

- a. Fair application of quality inspection checklists.
- b. QAES spending a long period of time becoming familiar with the contract and the specific language. The implication here being that for as long as six months there are no discrepancies and then everything was incorrect.
- c. Time allowed for reperformance--some QAE's ensure that time is provided--others do not.
- d. Imposition of standards that are different from the SOW or PRS.
- e. Personnel outside the contracting chain submitting letters of commendation for personnel who are not deserving.

12. Fort Ord Contract Administration Personnel

The purpose of these interviews was to obtain information from local contract administrators on factors that influence service quality. There were two factors that received equal emphasis and they were: (1) Contractor-induced problems, and (2) the QAE/Inspection Process. Specifically for the Contractor induced problems, the following concerns were expressed:

- a. The contractor is non-responsive to administrative requirements.
- b. There appear to be labor violations as a result of lack of attention to payroll accuracy.
- c. There is a lack of interest in attending weekly performance meetings.
- d. Most contractors underbid personnel to obtain a contract.

The QAE/Inspection Process problems were expressed as follows:

- a. There is conflict between military personnel and QAES. (A Commanding Officer forwards a letter of

commendation for services that are required as part of the contract at the same time the QAE notes more discrepancies.)

- b. QAEs fall under the purview and control of the requesting agency while the Contracting Officer's Technical Representatives fall under the contracting section.
- c. The number of contracts assigned to the QAE may be excessive for personal capabilities.

13. Service Contractor Lawyer

The purpose of this interview was to obtain the reasons his clients are usually successful at all disputes processes. The reasons pointed to two factors, those being the QAE/Inspection Process and the Contractor. He felt that the contractors too often operated at a less than efficient or adequate manpower level. Additionally, he felt that both sides needed to communicate more clearly. This was particularly true during inspections and more importantly at performance review sessions. Also because QAEs seem to be very transient and overworked, record-keeping can become a critical factor in assessing contract quality.

14. Telephonic Survey

A telephonic survey was conducted to determine the amount of Government and service industry interaction. The results indicated that none of the contractors contacted had ever received a draft request for proposal or request for information. The results and questions utilized are contained in Appendix A.

IV. ANALYSIS

A. GENERAL

This chapter provides an analysis of the data presented in Table 3.1 of Chapter III. This analysis will be accomplished by summarizing the results as quantified under the factors influencing service quality. Some assumptions were necessary in order to analyze the data. These assumptions are as follows:

1. The sample of data collected from each group is representative of the population of that group.
2. The factors identified and utilized for Table 3.1 are valid indicators.

The factors influencing service quality can be placed in relative order of occurrence. The breakdown is as follows:

1. QAE/Inspection Process	47%
2. Contractor	26%
3. SOW	16%
4. PRS	11%

B. QAE/INSPECTION PROCESS

This factor represents a 47% rate of occurrence--almost two times more prevalent than the next highest indicator. This high percentage of occurrence can be attributed to the following factors:

1. QAE inspection results are not always documented or properly reported.

2. QAE performance is not being monitored properly.
3. QAES were not using random sampling techniques properly.
4. QAES receive little or no training in contract administration.
5. QAES apply their own subjective standards to the inspection process.
6. There are insufficient numbers of QAES, causing designated QAES to be assigned a workload incapable of being completed in required time frames.

All five of the methods used by the Navy to evaluate the contractor's performance (as discussed in Chapter II) rely on QAE inspections of service output to monitor contract performance. To be effective, QAE inspections must be accomplished in a timely manner, measure compliance with performance standards, be accomplished in sufficient quantity to satisfy the requirements of random or planned sampling as well as 100% inspections and be adequately documented to support both acceptable and unacceptable performance. The Performance Requirements Summary may increase problems when a unique checklist is used for each required service. Accordingly, the number of required checklists depends on the number of different contractor-provided services. Accomplishing the required number of inspections on time becomes more difficult as the QAES workload increases. As a direct result of this pyramid effect the QAES do not accomplish the required number of inspections so they falsify inspection results by reporting satisfactory service when inspections are not accomplished.

Additionally they do not report substandard work or deficiencies because the paperwork to document the deficiencies is too hard to accomplish in the time frames now available. This discrepancy as identified in Air Force Audit 5076510 is directly related to the number of services contracts in existence. As the number of service contracts has increased--almost two-fold--it is logical to assume that documentation problems have also grown.

The monitoring of QAE performance varies with the different branches of the Armed Forces. In the Army, the QAE generally is from the requesting activity or Directorate of Logistics. This assignment policy generates conflict of interest problems by the QAE attempting to serve both his parent organization and the contract organization. This conflict is further exacerbated by providing no established system for analysis of QAE performance--primarily, who provides it and how? In the Air Force, functional area chiefs are required to review QAE job performance at least semiannually to verify compliance with the contract surveillance plan. In the Navy, QAES can be part of the contract administration section or be appointed by the command to perform monitoring type functions. The clear lack of standardization coupled with increasing manpower constraints will continue to cause problems in contract administration, individual performance evaluations and personnel management.

The random sampling method of surveillance of services rendered by the contractors has been in existence since the late 1970's. Prior to that time the method for inspecting service contractors either covered 100% or judgmentally selected sample of services provided. In theory, random sampling is an important tool as it allows the QAE to make a determination as to the quality of the entire service output by statistically projecting the results of the random sample. Additionally, random sampling provides the Government an accepted methodology to reduce contractor payments when sample results indicate unsatisfactory contract performance. In order to achieve statistically valid projections, statistical procedures as specified by individual Armed Services regulations must be adhered to in determining correct lot and sample sizes, selecting random occurrences and in properly applying acceptance and rejection numbers. The improper application of these procedures negates the statistical validity of the random sampling and consequently, inspection results can not be accurately projected to the population and deductions are improperly made.

An increasing number of QAEs are required as the number of services contracts increase. The requirement for QAEs is exceeding the contract administration section's ability to properly train personnel in the facets of their jobs. This fact coupled with the fact that some QAEs lack the clear

definition of chain of command are causing new problems for the contract administrator.

One of the biggest problems caused by the lack of training is the application of subjective standards. Because the inspector does not understand how to read a contract or apply statistical procedures he utilizes his own definitions which may or may not be correct. This trend is growing in the area of disputes litigation.

Because of resource constraints and the rapid growth of service contracts, experienced QAE personnel are being tasked with additional inspection responsibilities. Throughout the research this researcher was amazed at the volume of work required of the QAEs. The administrative portion of their job, such as scheduling and routine correspondence, often amount to several in boxes of work to be processed. This administrative backlog can cause problems for deductions when the reports are not timely. In one case the reports reached the contract administrator 92 days after the fact.

C. CONTRACTOR

Failures of the contractor represented a 26% rate of occurrence. This researcher believes if the number of services contracts continues to rise, this will occur with much greater frequency. The reason for a relatively high occurrence rate can be attributed to the following three failures:

1. The contractor has a lack of capable supervisors.
2. The contractor has ineffective quality control measures.
3. The contractor fails to have a sufficient work force as a direct result of paying too low a wage rate.

In order to be competitive many contractors underbid in the area of personnel or do not anticipate the problem of hiring experienced personnel at prevailing wage rates determined by the Secretary of Labor (Davis-Bacon Act, Service Contract Act of 1965). The personnel problem grows exponentially and causes additional work for both the contract administration personnel and inspection personnel. The additional work stems from violations of the Contract Work Hours Safety Act. The Act requires that no laborer shall be required or permitted to work more than 40 hours in any workweek unless paid for all additional hours at not less than one and one half times the basic rate of pay. QAEs have become increasingly involved as a receipt of a complaint alleging violation or employee interviews constitute valid compliance checks. The QAEs are becoming more involved as the contractor's work force sees the QAE as a direct representative who can help them. Until emphasis is shifted from awarding to the lowest bidder this problem will continue to grow.

D. STATEMENT OF WORK

The SOW factor represented a 16% rate of occurrence. Even though this factor was rated third in a field of four

it is realized that all other factors are highly dependent on this factor. The performance of the contractor and the Government quality inspection method are direct functions of the statement of work. The reason that the quality inspection method is dependent on the SOW is due to the rationale that contractor performance can only be measured through specific requirements. This researcher chose to evaluate this factor in terms of the definition of the contract functions and the use of vague or ambiguous specifications. The main cause of these problems stems from the use and tailoring of generic statements of work and an implied mentality that the field contracting office should submit the SOW up the chain of command for revisions and approval. The poorly defined functions and vague specifications lead directly to increased costs in contract price and administration. Contractors buy in at a low level knowing that vague specifications will be clarified and contract modifications will be negotiated. For example, the Naval Audit Service reported in 1984 that in nine of 11 contract functions it reviewed, projected savings were not realized due to higher than estimated contract administration costs and modifications increasing the scope of work. Similarly, a 1983 Army Audit Agency report stated that the average contract administration costs for 12 contracts it reviewed were more than double the estimates used for the cost study. [Ref. 24:p. 4] Additionally the reliance on

generic SOW's tend to lead to contradictions in definitions. An example of this is spot cleaning. The Government typically underdefines it in such a manner that the cleaning results in criticism from the customers to such a degree that drastic action is required to rectify the situation. Special cleanups become the norm and the contract has to be changed. Industry defines the initial cleaning as MINIMAL CLEANING. What the Government often wants is defined (in industry terms) as ADEQUATE CLEANING. This type of cleaning typically represents a standard of cleaning that will provide neither compliments or serious criticisms. The extreme case would be ordering MINIMAL CLEANING when PRESTIGE CLEANING is desired. This level means that a cleaning complaint would be a rarity. These definitions would have to be spelled out in the definitions section of the SOW; but, would be more easily understood by a contractor. [Ref. 25]

E. PERFORMANCE REQUIREMENTS SUMMARY

The performance requirements summary factor represented an 11% rate of occurrence. The performance requirements summary is designed to set objective standards for determining whether service was satisfactory and to define and measure the cost of each service to be performed. The summary is intended to alleviate the expense and administrative burden of the typical 100% inspection methodology and place the performance and quality assurance

burden directly on the contractor by applying sampling techniques. These techniques identify representative defects in the performance of services and permit projecting the number of defects in the sample over a larger lot for the purposes of justifying deductions. The problem lies in the fact that the Government does not define to the extent necessary those tasks to be evaluated by sampling and then break the sampling tasks into reasonable levels. This researcher reviewed two cases where the required services were assigned a total value of over 100 percent of the contract price. In both cases, the necessary modifications were made; however, no deductions were allowed for substandard performance prior to the completion of the modifications. Additionally, it appears that the expert advising the drafter of the SOW and PRS does not make an analytical judgment concerning the contract value percentages. Contract value percentages are used to arrive at an amount of a deduction to be made when there is unsatisfactory performance. They also often tend to be contradictory to the language of the contract. The PRS and the percentages place the emphasis of the work effort on areas that are different from the SOW where the most important functions are defined. For example, in a food services contract food preparation may be the most important of the factors to be evaluated by sampling while sweeping is the least important. To assign a contract deduction value

of 0.1% to food preparation and a contract deduction value of 10% to sweeping is contrary to the logic of importance previously stated.

F. SUMMARY

Today, both the Government and contractors are facing growing competitive and regulatory pressures to deliver higher quality services. In an attempt to comply with these pressures more emphasis has been placed on the inspection process and subsequently on the contract administration sections as they are tasked to develop and apply efficient procedures for quality assurance. This researcher fully anticipated finding that the SOW would be the largest contributing factor influencing service quality. It is directly related as the SOW forms the basis for the quality assurance plan. The research emphasized that even the well-written SOW's were not useful if the QAE did not understand them or could not apply them. This researcher believes that the reasons that caused the QAE/Inspection Process to be the leading indicator were as follows:

1. Current manning levels in either the contracting offices or unit level are understaffed in such a fashion as to prevent efficient contract monitoring. As a result the QAEs become mired in the administration process and do not perform required on-site inspections.
2. The present quality assurance measures are inadequate or incorrect as there appears to be no incentive to improve.

3. The personnel assigned as inspectors are not properly trained in contract administration or surveillance techniques and procedures.
4. Contractors rely on the inspectors to provide the impetus or core for their quality assurance program.

V. SUMMARY/CONCLUSIONS/RECOMMENDATIONS

A. CONCLUSIONS

The primary purpose of this thesis was to investigate ways to draft and administer service contracts in a manner that would improve contractor performance. This was accomplished through extensive literature research and interviews with Government and commercial services personnel. Based upon this research, the researcher concludes:

1. The use and tailoring of generic statements of work often result in poorly defined functions and vague specifications that lead to increased costs.
2. The performance requirements summary often conflicts with the statement of work resulting in errors that make deductions for unsatisfactory performance difficult.
3. The selection of a services contractor is based on the lowest bid or price.
4. The use of a firm fixed price contract does not provide the flexibility or the necessary profit margin for all services contracts.
5. The selection, training and supervision of QAE personnel has caused significant problems in contract surveillance and administration.
6. The present method of assuring quality by random sampling and detailed checklists is not providing the desired level of service quality. As a result the Government is unable to inspect and document all the required services.
7. There is a pool of contractors that are not being solicited for proposals because of a lack of communication with the service industry.

B. RECOMMENDATIONS

Based upon this research and conclusions, this researcher suggests the following recommendations.

1. Recommendation 1--The Drafting of Services Contracts Could be Improved by Involving Industry in the Development of Standards and the Statement of Work (SOW)

In performing the research, this researcher was able to obtain a list of services contractors in the Northern California area. The list provided 154 names that included a wide cross-section of contractors from small, closely-held family firms to large corporations with numerous branches. An informal telephone poll of 80 contractors (52%) confirms the need to work with the service industry in that not one contractor had ever received a draft Request for Proposal (RFP) or Request for Information (RFI). The survey also indicated that contractors who have performed Government work (60%) would be willing to respond to a draft RFP/RFI (98%). Additionally, professional trade associations such as the Building Service Contractor's Association, International (BSCAI) could be involved in the interchange of information, streamlining of the specifications, and updating of standards. For example, the Naval Facilities Engineering Command Janitorial Handbook was published in 1975 and is in need of update to be a valid reference document. The BSCAI can provide the latest methods and new techniques developed for the industry as well as maintaining a problem solving information network.

With the growth in the contracted services expanding rapidly and contractors continuing to increase their share of the available market, DOD and the service industry must establish clear policies and procedures well-adapted to business objectives and to specific tasks and functions. This active involvement between the Government and industry would serve to meet goals established during the Packard Commission for improvement in the acquisition process.

2. Recommendation 2--Utilize Source Selection Procedures That Will Provide the Most Qualified Contractor

The selection of a good contractor is extremely important to the success of the contracting effort, and yet contracting procedures often leave this selection to chance, basing the selection solely on the lowest bid. The emphasis should be removed from cost and placed on management. In the past, the requirements to use formal advertising (Invitation for Bids [IFBs]) made source selection on any basis other than lowest price almost impossible. However, the Competition in Contracting Act allows the use of competitive proposals (Request for Proposals [RFPs]) and this new freedom permits evaluation and award to contractors on the basis of their technical and managerial abilities. Because service contracting is dependent on a steady work force, management plays a decisive role in attaining quality results. Some areas of management to be evaluated could be:

- a. Personnel turnover--If it is high, what is causing it?

- b. Management depth--Is the contractor's organization dependent upon one person?
- c. Supervisory organization--A review of the contractor's organization should be made to determine the number of workers he has per non-working supervisor, the control over the supervisors, and if possible, the caliber of supervision.
- d. Is the contractor a member of a professional organization that offers certification for key personnel, training seminars and assistance if required. These are not in themselves guarantees of quality any more than a degree in medicine guarantees a good doctor; however, they increase the probability of good performance.

The use of RFPs for services contracts provides an opportunity to ensure that a contractor can perform the work before an award is made. Every service contract has technical aspects that should be evaluated. This is advantageous to the Government because the RFP reveals potential performance problems. It is also advantageous to the contractor as he has an opportunity to clarify ambiguities and to correct or adjust their bids. The extra time for the evaluation will be saved later in the contract not to mention the time saved if problems result in a termination. Thus the use of an RFP source selection procedure can ensure better service by allowing both evaluation of cost and technical ability to perform.

3. Recommendation 3--Utilize Cost Plus or Hybrid Contracts Instead of Firm Fixed Price

The cost plus arrangement provides the flexibility that is often needed when requirements are difficult to quantify. The work statement will be less restrictive and

can be more performance oriented. To use a cost plus award fee contract, cost control must be included as one of the evaluation criteria within the award fee structure. Additionally, the use of hybrid contracts could be useful in situations in which a straight fixed price is not practical. A hybrid contract is a contract that combines elements of two (or more) different contract types. A variation of this would be to utilize a contract with a hybrid fee structure. In such a contract, award and incentive fees are combined, with the award fee being subjective and based on quality of service and the incentive fee being structured and based on quality of service and the incentive fee being structured and based on cost control.

4. Recommendation 4--Improve the Methods for Selection, Training, and Supervision of QAE Personnel

In the area of qualifications, the Government must assure that the inspectors and QAEs collectively possess professional proficiency to conduct a quality assurance program. A step required prior to this is for the services to place the QAEs under the contracting officer. This placement would establish total accountability in the contracting area and ensure training in both inspection processes and contract administration was obtained. Additionally, this placement would allow the contracting office to institute proper staff qualifications and provide a source of feedback for performance while ensuring contractor compliance. By placing the QAEs under the

contracting officer better use of all contracting personnel could be accomplished. One broad approach toward solving some of the personnel problems might be to divide job responsibilities into a number of relatively unskilled and skilled categories. This subdivision of work would permit a smaller staff of QAES to transfer statistical quality assurance inspection requirements to a less trained inspection staff--less trained in the area of statistical quality assurance; however, well versed in functional procedures such as food service or building maintenance. This division of labor would be a cost effective method of inspection/compliance. In turn the functional inspection level employees would report their findings to the QAE staff. The QAES would then interpret the contractors' performance and prepare reports to the contracting officer. The direct flow, up and down the chain, with accountability of functions well defined, would permit the Government to accomplish the goals of contractor compliance.

5. Recommendation 5--Introduce the Use of Flow Diagrams and Process Charts to Involve the Contractor in Quality and Surveillance Techniques

In OFPP Pamphlet 4, a standardized method is provided for quality assurance on service contracts. During the research, this researcher found that contract administrators have found the suggested methods difficult to use and extremely labor intensive. Deductions for poor performance are often difficult to quantify and are even

harder to substantiate if a grievance is filed by the contractor. It is the result of this methodology and perceived regulation interpretation that the only way to increase quality was to add inspectors and vigorously screen out rejects and defects. The results were higher costs and only minimal improvements in quality. Prevention is a far more effective means for improving quality. If contractors can prevent errors, thereby reducing the time and effort devoted to fixing them, they can cut costs and improve quality.

Flow diagrams and process charts can provide a versatile technique for analyzing work methods. The overall purpose of the flow diagram is to understand the process. More specifically, the purpose is to get collective agreement on what the process looks like, where problems exist and what improvements can be made. When used together, these two tools would allow both the Government and the contractor to investigate a variety of situations such as several operations being performed in sequence, flow of work, and workers moving from place to place while doing work. The process chart can be easily used by the worker as a task checklist as well as the basis for instituting statistical process control and inspection procedures. The provisions of award fee contracts can give it added emphasis by making it one of the evaluation criteria for the award fee. Similarly, the contractor quality control plan and

organization could be evaluated during technical review of the proposals as part of the source selection procedures.

C. SUMMARY

The Government and contractors face the same challenges and must work together to develop a coherent philosophy on quality, grounded in a common language, common management principles, common standards, and common goals.

D. RECOMMENDED AREAS OF FURTHER RESEARCH

1. Use of hybrid contracts and hybrid award fees for services contracts.
2. Investigate the results of the Council of Defense and Space Industry Association Task Force for the feasibility of developing a syllabus on quality for employees in both DOD and industry.
3. Determine if there are any service contractors within the Department of the Navy that utilize the concept of total quality management--if so, evaluate the progress.
4. Evaluate the possibility of using methods analysis to improve service contract output.

APPENDIX A

REQUEST FOR PROPOSAL/REQUEST FOR INFORMATION SURVEY

A list of services contractors was provided to this researcher by the Building Service Contractor's Association, International. The list provided 154 contractors in California that included a wide cross-section of contractors from small, closely-held family firms to large corporations. A number (80 of 154) of the contractors were asked the following questions in a telephone survey:

1. Have you performed or are you performing a service contract for the Government?
2. Have you ever received a draft request for proposal or request for information from the Government?
3. Would you submit a response to the above request if received?

The results are portrayed on the following pages in the format of: Name of Contractor, Question 1, Question 2, and Question 3. The questions utilized a yes or no answer.

<u>NAME OF CONTRACTOR</u>	<u>QUESTION 1</u>	<u>QUESTION 2</u>	<u>QUESTION 3</u>
ISS International	Yes	No	Yes
Three Star Maintenance	No	No	Yes
Geller Building Maintenance	No	No	Yes
City Wide Services	No	No	No
Yates Maintenance Company	No	No	No
Customer Service, Inc.	No	No	No
All Cities Services	No	No	No
Western Shores Services	Yes	No	Yes
Green's Janitorial Service	No	No	No
Pacific Building Services	No	No	Yes
Better Carpet Care, Inc.	No	No	Yes
Ameriko Inc.	No	No	No
Haynes Building Service	Yes	No	Yes
J's Maintenance Service	No	No	No
Royal Care Services, Inc.	No	No	No
Warner Maintenance	No	No	Yes
Becks Quality Service	Yes	No	Yes
Apron Brigade	No	No	No
High Tech Building Services	Yes	No	Yes

Jan Co	No	No	No
Merchants Building			
Maintenance	No	No	Yes
Paradise Building Service	No	No	No
Januz International, LTD.	No	No	Yes
American Maintenance			
Management	Yes	No	Yes
Professional Maintenance			
System	Yes	No	Yes
Star Building Maintenance	Yes	No	Yes
Daarco Building			
Maintenance	No	No	Yes
D'zine Services	No	No	No
Qualitech Services	Yes	No	Yes
Fletcher Certified			
Services	Yes	No	Yes
Cap-Tec Corporation	No	No	Yes
Murphy Janitorial, Inc.	Yes	No	Yes
Gibson Brothers Service	Yes	No	Yes
Dial One Maintenance			
Service	No	No	Yes
DLB Maintenance	Yes	No	Yes
Robert's Carpet Service	Yes	No	No
Clean Masters	Yes	No	Yes
C&P Building Maintenance	Yes	No	Yes
Northern Building			
Maintenance	Yes	No	Yes
Myers Building Service	Yes	No	Yes
Promaid Inc.	No	No	Yes
The Cleaning Crew	Yes	No	Yes
Night Owl Janitorial			
Service	No	No	Yes
Management Technical			
Service	Yes	No	Yes
Executive Cleaning			
Specialists	Yes	No	Yes
Omni Universal Services	Yes	No	Yes
Pacific Building			
Maintenance	Yes	No	Yes
Kern Commercial Cleaning	No	No	Yes
Expert Cleaning Service	Yes	No	Yes
Clean-Tech	Yes	No	Yes
Starlight Building			
Maintenance	Yes	No	Yes
Britannia Inc.	No	No	Yes
Polaris Building			
Management	Yes	No	Yes
L&E Service Company	Yes	No	Yes
Reliable Service	Yes	No	Yes
Expert Building Service	Yes	No	Yes
Ace Building Maintenance	No	No	Yes

American Building Industries	Yes	No	Yes
ABC Building Services	Yes	No	Yes
Lewis & Taylor Building Services	Yes	No	Yes
G.M.G. Janitorial Services	Yes	No	Yes
Acton Building Maintenance	Yes	No	Yes
G or Z's Janitorial Service	No	No	Yes
Town & Country Floor Maintenance	Yes	No	Yes
Century Window Cleaning	Yes	No	No
Jones Janitorial Service	Yes	No	Yes
Franks Janitorial Service	No	No	Yes
Best Janitorial	No	No	Yes
Hayward Enterprises	Yes	No	Yes
Welcome Building Maintenance	Yes	No	Yes
Champion Services	Yes	No	Yes
First Building Maintenance Co.	Yes	No	Yes
Nova Commercial Co.	No	No	Yes
S.A.M. Co.	Yes	No	Yes
Hudson & Quinn	Yes	No	Yes
C. Butler Janitorial Service	Yes	No	Yes
Tiburon Cleaning Services	Yes	No	Yes
Lewis Maintenance, Inc.	Yes	No	Yes
Central Maintenance Co.	Yes	No	Yes
S. V. C. Maintenance	No	No	Yes
Helping Hands	No	No	Yes

SUMMARY OF SURVEY

Number of Contractors Provided:	154
Number of Contractors Contacted:	80
Number Performing Government Work:	48
Number Receiving Draft RFP or RFI:	0
Number that would respond to RFP/RFI:	67
Number of contractors that have performed Government work and would respond to a draft RFP/RFI:	46/47

APPENDIX B

LIST OF INTERVIEWS

1. Pope, William, Owner, L & E Service Company, Inc.,
Seaside, CA. 24 August 1989 (Personal).
2. Moranda, Toni-Marie, Contract Administrator, Fort Ord
Army Base, CA, 25 August 1989 (Personal).
3. Gerstl, Hugo, Attorney at Law, Gerstl & Gorman, Inc.,
Monterey, CA, 25 August 1989 (Personal).

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18. Southeastern Services, Inc., ASBCA No. 22816, Armed Services Board of Contract Appeals, 5 June 1985.
19. Leals (Food Service) Inc., ASBCA No. 28829, Armed Services Board of Contract Appeals, 8 May 1985.
20. Lewis Management and Service Company, ASBCA No. 24398, Armed Services Board of Contract Appeals 2 April 1985.
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23. United States Army Audit Agency, Office of the Auditor General, Alexandria, Virginia, Report of Audit: Food Service Contracting 7th Infantry Division (Light) and Fort Ord, 25 March 1987.

24. United States General Accounting Office Testimony,
Subject: Statement of Gene L. Dodaro, Associate
Director General Government Division Before the
President's Commission on Privatization, 7 January 1988.
25. Building Service Contractors Association Pamphlet,
Subject: How to Select A Building Service Contractor,
Fairfax, Virginia, no date.

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6. Professor David V. Lamm, Code 54Lt Department of Administrative Sciences Naval Postgraduate School Monterey, California 93943-5000	5
7. Toni-Marie Moranda Directorate of Contracting Contract Administration Post Office Box 27 Fort Ord, California 93941-0027	1
8. HMC Richard L. Charett, USN (Ret.) Post Office Box 714 Sneads Ferry, North Carolina 28460	1
9. Capt Daniel J. Barnd USMC 320 West Franklin Wells, Minnesota 56097	1